

ABSTRACT OF DISCLOSURE

In a planar light illumination and imaging (PLIIM) system, a planar light illumination module (PLIM) of compact construction produces a planar laser illumination beam (PLIB) which emanates substantially within a single plane along the direction of beam propagation towards an object to be optically illuminated and imaged. The PLIM comprises a module housing which has an axial extent, first and second end portions, a central bore formed along the axial extent, and a recess integrally formed in the second end portion. A visible laser diode (VLD) is mounted along the bore at the first end portion of the module housing, for producing a laser beam generally along the axial extent. A focusing lens is mounted along the bore between the first and second end portions, for focusing the laser beam to a predetermined focal point. A laser beam expansion element is mounted within the recess at the second end portion of the module housing, and expanding the laser beam along a predetermined direction and producing a substantially planar laser illumination beam from the beam expansion component.